

N<sup>o</sup> 8954



A.D. 1893

Date of Application, 4th May, 1893  
Complete Specification Left, 16th June, 1893—Accepted, 5th Aug., 1893

PROVISIONAL SPECIFICATION.

Improvements in Golf Clubs.

I, WALTER CLAUDE JOHNSON, of The Diguaries, Westcombe Park, London, S.E. Engineer, do hereby declare the nature of this invention to be as follows:—

My invention relates to an improved construction of golf clubs, more particularly those known as "drivers" "brassies" "spoons" and "putters," and other kinds of clubs the heads of which are usually made of wood or other light material.

Hitherto the heads of such golf clubs have been formed by skilled operatives who have carved them out of pieces of wood by hand, thus entailing a comparatively high cost of manufacture and a greater or less want of uniformity in the club heads so made.

10 According to my invention I simplify the manufacture of such club heads and also insure the perfect uniformity thereof by making them of such a form that they can be made more or less entirely by simple machinery such as a lathe or other rotary wood cutting machine.

In making such heads I first form in the lathe or other machine a cylinder or an oval body of some suitable wood or other similar material, and then, by the same or by another rotary cutting machine, I form all other necessary faces, bottom, or sides of the club-head. Where it is necessary, as in clubs known as "brassies," to have a metal sole to the club-head, I use a similar rotary machine to spin, edge, face or polish such metal sole and a rotary cutter is used to cut off any portion of such metal sole as may be needful, either after or before it has been attached to the head of the club.

By these means any number of golf club-heads can be produced which shall be perfectly uniform in shape and interchangeable.

Whilst the club head is in the rotary cutting machine and is receiving its external shape, or subsequently thereto, I form a recess in it, either centrally, or in a line with its swing when striking the ball correctly, and in such recess I insert weights which may be removed or altered to suit the taste or strength of the golfer. The weights may be discs of any heavy material or they may consist of gun shots or a coil of lead wire, or the like, these being retained in the recess by means of a cap closing the latter.

30 The club head, whilst in the lathe or rotary cutting machine, is also bored at a suitable angle to receive the shaft of the club. To make a good strong joint, a ferrule for receiving the shaft may be secured in such bore hole by keying or screwing and be then pinned in such a way as will prevent it from twisting or becoming loose, such fixing being effected in so simple a manner that a new head or shaft may be fitted without requiring skilled labour.

85 The metal sole of that kind of club known as a "brassie" I make slightly convex, so that when a golfer touches the ground in the act of striking the ball, the motion of his club will not be so greatly arrested by contact with the ground as when the sole is flat.

Dated this 4th day of May 1893.

ABEL & IMRAY,  
Agents for the Applicant.

## COMPLETE SPECIFICATION.

## Improvements in Golf Clubs.

I, WALTER CLAUDE JOHNSON, of The Digories, Westcombe Park, London, S.E., Engineer, do hereby declare the nature of this invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement:—

My invention relates to an improved construction of golf clubs, more particularly those known as "drivers," "brassies," "spoons" and "putters," and other kinds of clubs, the heads of which are usually made of wood or other light material.

Hitherto the heads of such golf clubs have been formed by skilled operatives who have carved them out of pieces of wood by hand, thus entailing a comparatively high cost of manufacture and a greater or less want of uniformity in the club heads so made.

According to my invention I simplify the manufacture of such club heads and also insure the perfect uniformity thereof by designing them of such a form that they can be made more or less entirely by simple machinery such as a lathe or other rotary, reciprocatory or automatic copying wood cutting machine.

In making such heads I first form in the lathe or other machine a cylinder or an oval body of some suitable wood or other similar material, and then, by the same, or by another rotary cutting machine, I form all other necessary faces, bottom, or sides of the club head. Where it is necessary as in clubs known as "brassies" to have a metal sole to the club head, I use a similar rotary machine to spin, edge, face or polish such metal sole.

By these means any number of golf club heads can be produced which shall be perfectly uniform in shape and interchangeable.

Whilst the club head is in the rotary cutting machine and is receiving its external shape, or subsequently thereto, I form a recess in it, either centrally, or in a line with its swing when striking the ball correctly, and in such recess I insert weights which may be removed or altered to suit the taste or strength of the golfer.

The weights may be discs of any heavy material or they may consist of gun shots or a coil of lead wire, or the like; these being retained in the recess by means of a cap closing the latter. The cap being also a prominent object, directs the eye of the golfer to that portion of the club head which is opposite the centre of the face which gives the impact to the golf ball, and thus assists him in striking it correctly.

The club head, whilst in the lathe or rotary cutting machine, is also bored at a suitable angle to receive the shaft of the club. To make a good strong joint, a ferrule for receiving the shaft may be secured in such bore hole by keying or screwing and be then pinned in such a way as will prevent it from twisting or becoming loose, such fixing being effected in so simple a manner that a new head or shaft may be fixed without requiring skilled labour, and as easily as if the club head was entirely formed of metal.

I also fit those kinds of clubs known as drivers with a metal sole and in order to make them of proper dimensions and yet of sufficient lightness I make the sole and the bush or ferrule of aluminium or any metal which is much lighter than brass.

The metal sole of that kind of club known as a "brassie" I make slightly convex, so that when a golfer touches the ground in the act of striking the ball, the motion of his club will not be so greatly arrested by contact with the ground as when the sole is flat.

On the accompanying drawing is shown, by way of example, a "brassie" constructed according to my invention.

BEST AVAILABLE COPY

*Johnson's Improvements in Golf Clubs.*

Figs. 1 and 2 shew an elevation and plan of the club to a small scale; Fig. 3 shews an enlarged plan of the head, and Figs. 4 and 5 shew sections taken respectively on lines X X and Y Y in Fig. 3.

The head A is in this case formed out of a circular disc on which is cut a flat or slightly curved face A<sup>1</sup>, which may either be perpendicular or inclined at a greater or less angle, as indicated by dotted lines at Figs. 3 and 5.

The underside or sole of the disc is formed with a convex surface and is covered by a correspondingly dished metal plate B secured by screws as shewn.

At the centre of the disc is a recess C which is filled with weights D, which may be varied to suit the taste of the golfer, the recess being covered in at top by a plate E.

A metal ferrule or bush F is fixed at the proper angle in a bore hole formed in the head A, either by screwing as shewn, or otherwise, and in this ferrule is fitted the shaft G, this being secured by a screwed pin H passing transversely through the ferrule and shaft, or by any other suitable means.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed I declare that what I claim is:—

1. Constructing golf clubs with heads of such forms as are capable of being made by means of rotary cutting machines, for the purpose of securing uniformity of configuration and interchangeability, substantially as described.
2. In golf club heads, such as are referred to in the preceding claim, forming a chamber or recess in which is inserted an adjustable weight or ballast, substantially as described.
3. In golf club heads such as are referred to in the first claim, providing a metal ferrule or socket fitted in a hole in the head and serving to receive the shaft of the club, substantially as described.
4. In golf club heads such as are referred to in the first claim, forming the sole of the head convex, substantially as described.
5. The improved construction of golf club, combined and arranged substantially as herein described.

Dated this 16th day of June 1893.

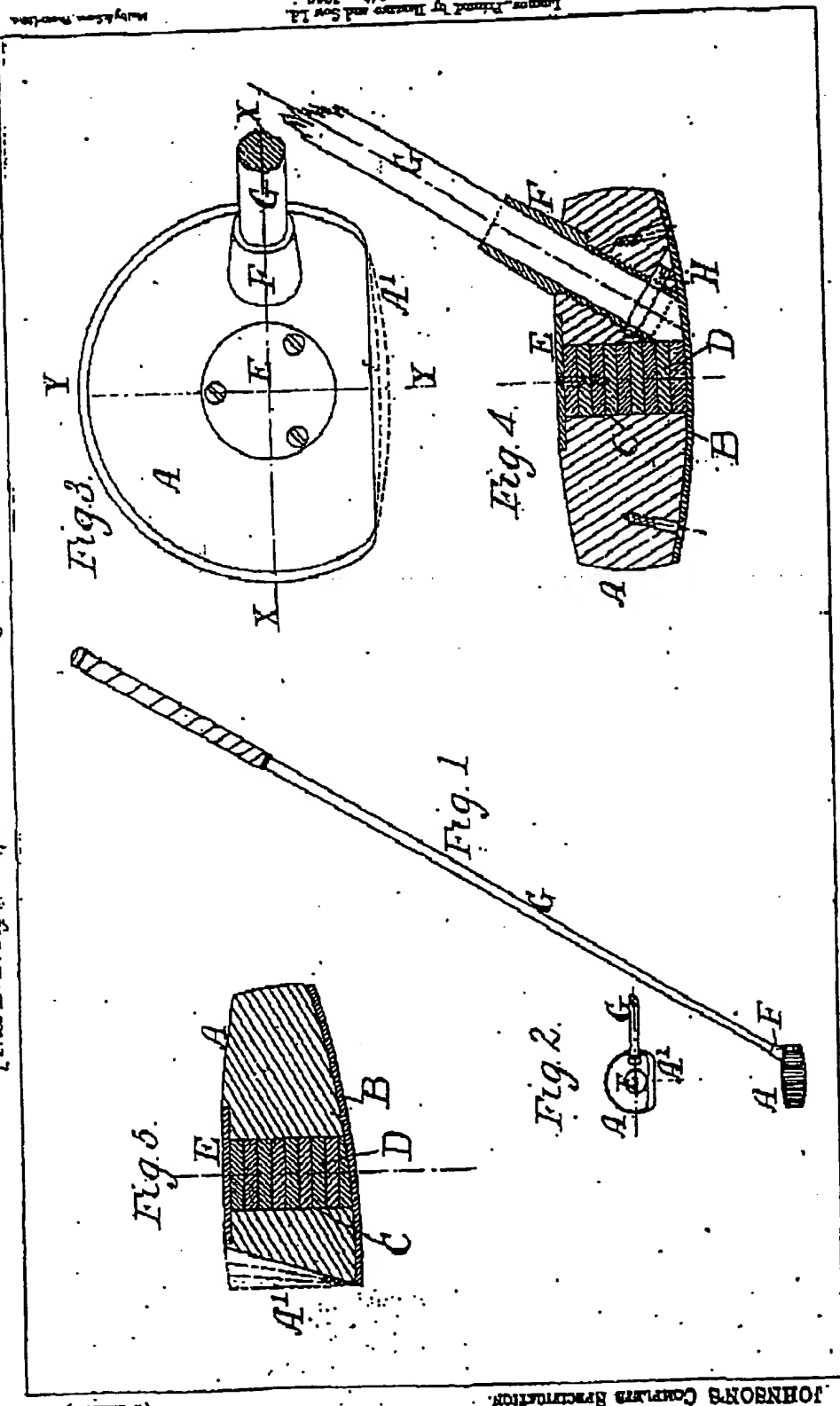
ABEL & IMRAY,  
Agents for the Applicant.

London: Printed for Her Majesty's Stationery Office, by Darling & Son, Ltd.—1893

BEST AVAILABLE COPY

T01550

[This Drawing is a reproduction of the Original on a reduced scale]



A.D. 1893. May 4. N<sup>o</sup> 8954.  
JOHNSON'S COMPLETE REPRODUCTION.  
(1 SHEET)

London: Printed by Thomas and Son, 12, for The Hydrographic Survey Office, 1893.

BEST AVAILABLE COPY

T01551